INTERNATIONAL SEARCH REPORT

International application No. PCT/CA2004/002183

A. CLASSIFICATION OF SUBJECT MATTER: IPC': F01K 27/00, F17D 1/04, F17C 7/00, F02C 1/02, C01B 3/02, C25B 1/00, H02K 7/00

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: F01K 27/00, F17D 1/04, F17C 7/00, F02C 1/02, C01B 3/02, C25B 1/00, H02K 7/00

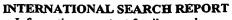
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)
Delphion and Canadian Patent Database; and search terms used: carrier, line, natural, gas, pipeline, energy, flow, converter, water, extractor, generator, electrolyser, pressure, hydrogen, turb*, turbo-expander, expander, pyrolysis, and let down.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s). 1 to 58	
Y	CA 1,274,399 A1 (KRYOS ENERGY INC.) 25 September 1990 (25-09-1990) Abstract; figure 1; and claims 1 to 10		
Y	US 6,196,021 B1 (WISSOLIK) 06 March 2001 (06-03-2001) Abstract; figures 1 to 6; and claims 1 to 21	1 to 51 and 54 to 58	
Y	US 4,555,637 A (ACD INC.) 26 November 1985 (26-11-1985) Abstract; figures 1 and 2; and claims 1 to 9	1 to 51 and 54 to 58	
Y	US 5,003,782 A (KUCERIJA) 02 April 1991 (02-04-1991) Abstract; figures 1 to 3; and claims 1 to 3	1 to 51 and 54 to 58	

[X] I	rurther documents are listed in the continuation of Box C.	[X]	See patent ramily annex.	
"A"	Special categories of cited documents: document defining the general state of the art which is not considered	"T"	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"E"	to be of particular relevance earlier application or patent but published on or after the international filing date document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) document referring to an oral disclosure, use, exhibition or other means	"X" "Y" "&"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search 31 March 2005 (31-03-2005)		1	Date of mailing of the international search report 04 May 2005 (04-05-2005)	
Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001(819)953-2476		Autho	Authorized officer Sylvestre Michael Bishop (819) 953-9813	



Information on patent family members

International application No. PCT/CA2004/002183

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
CA1274399	25-09-1990	US4711093 A WO8806704 A1	08-12-1987 07-09-1988
US6196021	06-03-2001	AU5136399 A WO0057118 A1	09-10-2000 28-09-2000
US4555637	26-11-1985	None	
US5003782	02-04-1991	None	
CA2128349	23-01-1995	EP0635673 A1 IL110362 A JP7167398 A NO942732 A US5606858 A US5685154 A	25-01-1995 29-06-2000 04-07-1995 23-01-1995 04-03-1997 11-11-1997
CA2212138	02-02-1998	US2001003247 A1	14-06-2001
EP0596143	11-05-1994	RU2009389 C1 US5425230 A WO9324784 A1 WO9324785 A1	15-03-1994 20-06-1995 09-12-1993 09-12-1993
US6167692	02-01-2001	US6233916 B1	22-05-2001
US6638413	28-10-2003	US6797134 B2 US2004084325 A1	28-09-2004 06-05-2004
US5112463	12-05-1992	CN1019590B B DE4101420 A1 JP6017277 A	23-12-1992 05-03-1992 25-01-1994